WHAT IS CLAIMED IS:

1.   A method for automatically generating at least one test for testing a simulation model of a device under test (DUT) in a test environment during a test verification process, the method comprising:

providing a plurality of scenarios, each scenario featuring at least one constraint relating to a relationship with at least one other scenario;

selecting at least one of said plurality of scenarios according to said at least one constraint; and

automatically generating the test from said at least one selected scenario.

2.   The method of claim 1, wherein said selecting comprises:

selecting a number of said plurality of scenarios according to said meta-data; and

combining said number of said plurality of scenarios to form a combined scenario instance.

3.   The method of claim 2, wherein at least one selected scenario comprises a sequence.

4.   The method of claim 3, wherein at least one selected scenario conflicts with at least one non-selected scenario and wherein said meta-data comprises information about said conflict.

5.　　　　　The method of claim 1, wherein said selecting at least one of

said plurality of scenarios is performed at least partially

according to a configuration of the DUT.

6.　　　　　The method of claim 1, wherein said providing said scenarios

is performed during a scenario creation process.

7.　　　　　The method of claim 6, wherein a user performs said scenario

creation process.

8.　　　　　The method of claim 1, wherein said providing said plurality

of scenarios is performed by a user.

9.　　　　　The method of claim 1, further comprising:

generating at least one external file according to said at least one

scenario.

10.　　The method of claim 9, further comprising:

using said at least one external file at run time for running the test.

11.　　The method of claim 10 further comprising:

compiling said at least one external file before said using said at least one

external file.

12.　　The method of claim 10, wherein said generating said at least one

external file is performed before or concurrently with said generating said test.

13. The method of claim 10, wherein said external file comprises an HDL (hardware description language) file for configuring the simulation model.

14. The method of claim 1, wherein said generating the test is performed according to an at least partially randomized process.

15. The method of claim 14, wherein said randomized process is based upon a plurality of constraints, and wherein said plurality of constraints is provided in said selected scenario.

16. The method of claim 1, wherein said generating the test is performed according to said at least one constraint.

17. The method of claim 16, wherein each constraint defines a type of expected input variable and a type of operation to be performed on said type of expected input variable.

18. The method of claim 17, wherein said constraint comprises a static constraint on a value of said type of expected input variable.

19. The method of claim 17, wherein said constraint comprises a dynamic constraint on a value of said type of expected input variable.

20.   The method of claim 17, wherein said at least one type of expected input variable is at least partially determined according to a simulation model of the DUT.

21.   The method of claim 1, wherein at least one characteristic of said constraint determines whether said constraint conflicts with another constraint.

22.   The method of claim 1, wherein the simulation model comprises a plurality of variables, wherein at least one scenario comprises a monitoring operation for monitoring behavior of the simulation model and wherein said monitoring operation comprises sampling at least one value of at least one variable of the simulation model.